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Best Practice in Performance Budgeting

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BEST PRACTICE IN PERFORMANCE BUDGETING

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Abstract

This paper seeks to identify the best practice principles for performance budgeting. It describes and analyses the principle mechanisms by which performance budgeting systems attempt to link results and resources. These mechanisms are evaluated, drawing amongst other things upon analysis of the underlying relationship between results and resources. The potential scope for the integration of performance management and budgeting is considered.

Aims and Structure

The objective of this paper is to identify the basic principles of what might be regarded as a best practice model of 'whole of government' performance budgeting.

Performance budgeting is defined as *the systematic use in the budget process of performance information generated by formal performance information systems*[1] *in order to make results a central determinant of budget funding decisions, and thereby make budgeting a powerful instrument for maximizing the effectiveness and efficiency of government*. A 'whole of government' performance budgeting system is one which applies to the annual government budget[2].

Thus the central focus of this paper is the question: how central budget decision-makers – particularly finance ministers, finance ministries, and cabinets – most effectively link funding and performance?

Although the main focus in this paper is on 'whole of government' budgeting principles, the discussion does touch at a number of points on what might be called *sectoral* performance budgeting systems – funding systems in which a specific government agency which employs performance budgeting principles in microcosm to allocate funding between multiple public producers of a specific class of services. The use by a health department of the casemix funding system to allocate money between different hospitals is an example of a sectoral performance budgeting system.

[1] 'Performance information systems' in this context means, at a minimum, a developed system of quantitative performance measures/indicators. Commonly, however, performance information systems will include other elements, such as program evaluation systems, formal benchmarking processes, output and activity costing models, and overall agency performance ratings.

[2] And which might therefore be referred to with greater precision as 'whole of budget sector' systems.

The structure of the paper is as follows. The first two sections discuss the definition of performance budgeting and the types of linkage between results and resources which differing performance budgeting systems attempt to create. This is followed by a detailed discussion of two of the most problematic issues in linking results and resources: the inevitably imperfect specification of results targets and the presence of indeterminacy in the underlying results/resources relationship. Conclusions are drawn concerning the appropriate way in which to develop the ex ante linkage between *planned* results and budget allocations. Attention then shifts to the ex post relationship between results and resources – that is, the feedback from actual agency performance to future budgets. In this context, the notion of budgetary 'incentives' for agency performance is considered, and this is followed by a set of propositions concerning the most appropriate form of ex post linkage. Finally, brief consideration is given to certain issues related to program-based expenditure classification.

Throughout this paper, the aim has been to draw on the experience of performance budgeting systems in a number of jurisdictions. These experiences are synthesized into an essentially theoretical analysis rather than individually outlined and reviewed. The justification for this is that a 'best practice' model of performance budgeting is most likely to emerge by drawing on the best elements of systems in place in a number of countries.

This is not an accounting paper, and it therefore does not touch on a number of relevant issues such as the link between accrual accounting and performance budgeting. It should not be thought, however, that this reflects a view that these issues are unimportant.

Objectives and Nature of Performance Budgeting

Performance budgeting models seek to design budgeting techniques so as more effectively to achieve two objectives. These are, firstly, effective *budgetary prioritization* and, secondly, *agency performance improvement*. The former refers to the improvement of allocative efficiency through the expenditure priority decisions embodied in the budget itself. The latter refers to the objective of promoting more effective use by each agency of the funds which it is allocated—which means both promoting productive efficiency and, to the (sometimes significant) extent that agencies have devolved authority over the types of outputs which are produced, also allocative efficiency.

Although certainly not unconcerned with improving agency performance, the main preoccupation of program budgeting, in the form originally introduced in the US in the 1960s (PPBS), was upon budgetary prioritization as a tool of allocative efficiency. Zero-Based Budgeting, and its marginalist offshoots[3], shared this emphasis. The principal tools of program budgeting are, of course:

- budgetary expenditure classification in terms of outcome/output groups ('programs'),

[3] Such as the phrase-up/phase-down budget models in which agencies were required to present the Finance Ministry with analyses of the implications of upward or downward funding variations of pre-defined percentage magnitudes (e.g. 5 percent, 10 percent).

- the systematic gathering of performance information (through indicators, evaluation, etc) to inform decisions about budgetary priorities between competing programs.

Increased emphasis has been placed in many performance budgeting models developed over the last decade or so upon agency performance improvement. The fundamental idea upon which these more recent models are based is that agency funding should be accompanied by the explicit stipulation of the results which it is expected that the agency should be able deliver with that funding. This idea manifests itself in different ways in particular performance budgeting systems, including:

- the proposition that performance standards or targets which are set for agencies should be *clearly linked with funding decisions*,
- 'purchaser-provider' systems in which funding is intended to be set as a function of planned output quantity.

These types of mechanisms relate to the ex ante linkage of results and resources. A related idea which has gained increased currency over recent times is that the ex post linkage between results and resources should be strengthened by formalized *budgetary* incentives for the agency performance. As discussed below, there are a number of versions of this idea.

It would be wrong to see contemporary models of performance budgeting as *alternatives* to program budgeting. For the most part, they are better regarded as extensions and adaptations of program budgeting, partly because almost all contemporary systems use as their starting point the results-based program classification of expenditure.

Given that, both in the literature and amongst practitioners, significantly varying meanings are given to the term 'performance budgeting', it is perhaps worth making a few points in defense of the definition set out above. The first point is that a satisfactory definition of performance budgeting should revolve around distinctive characteristics of *budgeting*, as opposed to non-budgeting performance management techniques. The second is that it should be a definition which is relevant internationally, rather than being linked to the characteristics of models which are specific to any one country.

On the first point, the definition proposed in this paper implies that performance information systems (performance indicators, evaluation and monitoring systems) should be viewed as a necessary, but not sufficient, element of a performance budgeting system. Thus the use of such systems for ex post performance assessment, as opposed to target-setting, does not *in itself* constitute performance budgeting. This is true even if the performance information is published as part of the official budget documentation. In other words, performance budgeting does not exist unless performance information actually *impacts* upon agency funding.

Nor does the existence of a process for setting performance targets necessarily constitute a system of performance budgeting. For performance budgeting to operate, is essential that performance targets be closely linked to funding decisions. It may seem like commonsense to say that, since funding is a key determinant of potential performance, any system of target-setting within the budget sector of government *should* be closely integrated with the budget

process. Nevertheless, there are plenty of examples worldwide of target-setting which is essentially independent of, or poorly linked to, funding decisions. Testimony to this comes, indeed, from the frequency with which one hears calls for the closer integration of performance targets and budgets.

Similar remarks apply to strategic planning. The existence of a government-wide strategic planning framework – such as that embodied in the US Government Performance and Results Act (GPRA) framework – does not in itself imply the existence of a performance budgeting system. Nor, conversely, does a performance budgeting system require such a government-wide strategic planning framework. In Australia, for example, when the 'accrual output budgeting' system was introduced in the mid-1990s, the mandatory government-wide strategic planning framework which had operated in the 1980s was abandoned – as a consequence of a view that in a more market-type version of performance budgeting, strategic planning was best regarded as an internal managerial matter to be left to individual agencies.

Another feature of the above definition is that the use of budgetary incentives for agency performance is not a *necessary* feature of performance budgeting systems. There are of course a range of other types – both formal and informal – of performance incentives and motivators. It is, for example, quite possible to have a performance budgeting system in which performance targets are set as part of the budget process, but the there is no suggestion that strongly-performing agencies will be rewarded with increased budget allocations.

Approaches to Linking Results and Resources

The performance budgeting idea sounds simple enough, but linking results and resources has not proven in practice to be an easy matter. As Pollitt (1999: 5, 7) observes "financial management and performance management systems tend to develop separately as parallel systems that may or may not (or only to varying degrees) be harmonious or even compatible ….integration of financial and performance management can be very difficult, and often does not take place."[4]

Performance budgeting models have taken different approaches in attempting to integrate financial and performance management. Under program budgeting, the primary emphasis was upon feeding performance information into the budgetary expenditure priority determination process – for the purpose, as noted above, of allocative optimization. This involved the gathering and use in the budget process of a considerable body of performance information—not only performance indicators, but also detailed analyses using techniques including program evaluations, benefit/cost analysis and the like.

[4] There are, of course, a number of studies of US performance budgeting systems which question how far performance information actually impacts upon budgetary decisions (eg Grizzle and Pettijohn, 2002; Melkers and Willoughby, 1998; Douglas, 1999; Jordan and Hackbart, 1999). Although these results reinforce the difficulties of integrating performance and financial management, it may also be the case that the separation of legislature and executive, by severely aggravating the multiple-principle problem, makes it much more difficult to operate effective performance budgeting in US-style political systems than in systems (UK, Australia etc) where the leaders of executive government are drawn from the parliament. We will return to this point briefly towards the conclusion of this paper.

The program budgeting experience is generally regarded disappointing. Partly, this was because of the sheer ambition of the goal of allocative optimization which motivated the original US version of program budgeting. Government was buried in analytic paperwork but was still unable to achieve anything even vaguely approximating allocative optimization. Following Wildavsky and others, the implications of information constraints and bounded rationality for public budgeting are these days (generally) well understood. The overall point is also much clearer to us today than it was in the 1960s, because of the understanding which has developed of the inherent flaws of central planning following the failure of the centrally planned economies and the manifest triumph of decentralized market systems.

The related problem of program budgeting, at least in its original form, is that it was politically naïve. The allocative optimization which program budgeting sought was to be based exclusively on rational assessments of outcomes for the community. In thus attempting to make effectiveness the *sole* criteria for expenditure prioritization, program budgeting ignored the irreducibly political nature of budgeting.

As mentioned above, the principal theme of most contemporary performance budgeting systems has been agency performance improvement. This reflects a preoccupation with the prevalence of productive inefficiency and poor 'product' design in the public sector – particularly in the budget sector of government, where outputs do not need to be sold to willing customers. The drive to improve agency performance has had the positive effect of revitalizing the performance indicator movement. It has also led in many countries to a great emphasis on the role of quantitative performance targets. The United Kingdom, where target-central is central to the Public Service Agreements (PSAs) developed by the Blair government, is one of the most striking examples of this. In the United States also, target-setting has been an important part of the GPRA model, particularly through the Annual Performance Plans which have come into effect in quite recent years.

It is in this context that contemporary performance budgeting systems have sought to tighten and formalize the results/resources link. A central theme, as noted above, has been the integration of target-setting and budgeting. But what does 'integration' mean in this context? Once again, different approaches have been taken in different parts of the world, and these can perhaps be understood better with the aid of a little simple modeling.

There are two possible types of linkage between results and resources. One is the relationship between agency budgets and the results which the agency is expected to achieve with that funding (i.e. its results targets) – what will be referred to as *ex ante* linkage. The other is the relationship between the results achieved in the past by agencies (their past performance) and the budgets they are given – referred to here as the *ex post* linkage. It is useful to consider each of these in turn.

Linking funding and ex ante (expected) results

Complete ex ante integration of targets and budgets would be feasible if there was a tight functional relationship between costs and results, and performance budgeting would then become

a relatively simple matter. To clarify this, assume that there exists a 'results cost function' of the general form $c = \psi(r_{expected})$, where r represents the (matrix of) desired results and c the cost of efficiently producing those results[5]. Suppose, in addition, that

- Central budget decision-makers are able to clearly stipulate ex ante the results which they wish each budget-funded agency to deliver, and are able subsequently to perfectly and costlessly measure ex post the extent to which those results are actually delivered,
- Each agency has sole management of the 'production' of the results concerned (i.e. no shared responsibilities with other agencies).

Given these assumptions, central budget decision-makers would be able to determine each agency's budget allocation as a function of the results they wished that agency to deliver. They could make use of the inverse of the results cost function,
$r_{expected} = \psi^{-1}(C)$, to set results performance targets which the agency could be expected to achieve with any given level of funding C if it were fully efficient. These results performance targets would be *fully integrated* with the budget. The extent to which the agency's actual results achieved fell short of target would then be a measure of inefficiency. Moreover, this approach would be precisely equivalent to idea of estimating budget allocations as a function of planned/expected results.

Partly under the influence of management accounting ideas, the thinking behind this type of model has been quite influential in some contemporary performance budgeting models. Usually, it is serves as the basis for models which seek to link funding with outputs, rather than outcomes. The idea is simple and comes straight out of an economics textbook: work out the (output) cost function, and use it as the basis of budgeting. It is one of the elements of the thinking behind 'output-purchase' budgeting systems (discussed further below).

However, not all of those who seek to improve the linkage between targets and results have in mind this type of tight functional integration. Many have in mind something rather looser – reflecting, perhaps, the fact that in many cases the preconditions for functional integration are not even approximated in the real world. This is true, for example, of the outcome targets set under the British PSAs. Nevertheless, there is a linkage between the PSA targets and resources – the general principle is that extra budget funding can only be obtained through agreement on more demanding outcome targets. The question therefore is: what is it that underpins this funding conditionality, if not a model of functional linkage between resources and results? This is an issue upon which, hopefully, some light is shed in the analysis below.

[5] In an ideal performance budgeting system, r would refer entirely to outcome measures. However, to do proper justice to the real world, we need to keep in mind a general formulation in which r might also refer to other performance indicators, including output quantity measures, output quality measures, and direct service activities. All of these concepts are used in the senses defined in Robinson, 2002 (especially note 3), which are broadly consistent with the US GASB framework.

Linking funding with ex post (actual) results

What about the idea of creating a link between funding and the *actual* results achieved by agencies? Once again, there are different approaches to creating such a linkage. Again, it helps to clarify matters by starting with the tightest form of linkage – the principle of 'payment for results'.

The two defining features of the payment for results principle are, firstly, the creation of an *automatic and formularized* linkage between funding and results and, secondly, reliance upon *objective* performance measures in the funding formula. In a pure form of this principle, *all* funding would be based upon measured results—ie $B = \psi(r_{actual})$, where B represents total budget funding.

Suppose, by way of example, that an agency were funded exclusively by way of a 'price' for each unit of output which it delivers, as with a hospital funded only through per-case payments. Thus, the funding received would vary directly with the output actually delivered. Such a funding mechanism would represent an output-based version of the pure payment for results principle—what has elsewhere been called an output purchase budgeting system (Robinson, 2002). This is the theory, if not generally the actuality, of budget models such as the Australian 'accrual output budgeting' system and its New Zealand equivalent, and has served as the basis of funding models within particular sectors and even within specific public entities, apparently including the US Defense Logistics Agency (Harr and Godfrey, 1992). The payment for results principle need not, however, be based only upon outputs. Some – including Osborne and Gaebler (1993: 139) – appear to believe, for example, that it would be a good idea to fund agencies entirely on the basis of the outcomes they achieve[6]. More realistically, one could base funding on the basis of a composite funding formula which included some outcomes indicators as well as outputs measures.

There is thus an important difference between, on the one hand, payment for results and, on the other, funding based on expected results. The former implies that if actual results fall short of expected results, the agency's funding will be reduced accordingly, whereas the latter does not. Output-purchase budgeting systems commonly aim to simultaneously apply both the payment for results principle and funding on expected results, by supposedly using the 'efficient cost' of outputs as the basis for their budgetary 'price' (in terms of the symbols used above, B = C) (Robinson, 2002).

The payment for results principle seeks to create a particularly tight feedback from actual results to funding. It is, however, possible to create feedback linkages which are more flexible, and which differ from the pure payment for results systems in a one or more of three key respects.

It is, firstly, possible to apply the payment for results system as a supplementary and subordinate element in agency funding, with the main bulk of funding taking the form of a 'base' allocation determined on some other basis (e.g. historical/incremental, or based on target results). This is increasingly common in some areas of the public sector: a good example is those university

[6] This might be seen as the emulation of a different (and more unusual) type of market model, exemplified by lawyers who work on a contingent fees—'no win, no fee'—basis.

funding systems which include some funding based on performance on outcome indicators such as graduate job placements, while the bulk of funding is determined by expected student numbers (i.e. planned output quantity) (Wellman, 2001).

Secondly, one could link funding to past performance, but incorporate a subjective or judgmental element in the rating of past performance. The new performance budgeting system being developed by the Bush administration[7] follows these lines. In it, funding is to be linked to an overall agency performance rating which assigns agencies a color-coded rating (green, yellow or red dots) based upon a combination of objective performance measures and subjective assessment.

Thirdly, the feedback from actual results achieved to funding might not be an automatic one. Agency results can be seriously taken into account in determining future funding without it necessarily being the case that poor funding will result in a funding cut – or conversely that good performance will results in a funding increase. The Bush administration model will be interesting to watch on this point. The administration suggests – quite appropriately – that there will be a quite tough linkage between performance and funding. This is, however, unlikely to mean that the linkage will be an automatic one.

These differing approaches to the ex post linkage of funding and results raise the question of the purpose of creating such a feedback linkage. Program budgeting involved a certain form of feedback from actual results to future budgets, but the predominant purpose of this feedback is improved budgetary prioritization: past performance is viewed simply as a source of information about the relative effectiveness of various expenditure alternatives. In sharp contrast to this, a recurrent theme in some contemporary thinking is that the feedback from actual results achieved to funding should aim to create performance *incentives* for agencies.

We can see in this the influence of agency theory. Agency theory has, of course, greatly reinforced the views that a central problem of 'traditional' public management systems is that public officials are inadequately motivated to perform, and that the answer to this problem (given the difficulty in directly monitoring effort which is one of the basic postulates of agency theory) is the creation of individual incentives for the achievement of results. 'Incentives' in this context means, in large measure, financial incentives. Agency theory, together with the influence of business remuneration models[8], has accelerated the development in the public sector of individual performance pay systems. It is perhaps unsurprising, given the pronounced human tendency to think via analogy, that under these circumstances the idea has developed that budget funding can operate somewhat like performance pay at the agency level.

Having outlined some of the main approaches to the results/resources linkage taken by performance budgeting systems, we now consider key problems and challenges which arise in making the linkage. A useful way of approaching this issue is to consider the assumptions which

[7] Executive Office of the President, *The President's Management Agenda, Fiscal Year 2002*, (Washington: OMB, 2002), 26-30; Office of Management and Budget, *Circular No.A-11*, (Washington: OMB, 2001), 503-11.

[8] Which have themselves been considerably influenced by agency theory, as reinforced – and distorted – by executive greed.

it was necessary to make to permit the completion integration of targets and budgets, along the lines of the simple model above. The assumptions made are, of course, unrealistic in almost every respect. Most obviously, the public sector management and accounting literature contains extensive discussions of:

- The prevalence of serious performance measurement problems: As a generalization, outcome measurement is most problematic (with the measurement of high-level outcomes often presenting particularly intractable difficulties). However, serious problems arise in respect to output measurement as well (e.g. in respect to quality),
- Divisions of responsibilities complicating lines of accountability: This can take the form of multiple principals. Also, particularly in respect to higher-level outcomes, it is quite common for there to be multiple agencies with shared responsibilities[9], leading to major issues of cross-agency performance management (which have been receiving increasing attention over recent times in a number of countries),
- Ex ante goal ambiguity: if, for example, conflicting objectives between interest groups have not, or cannot, be resolved in advance so as to permit a public agency a clear and pre-determined set of objectives, there will need to be an ongoing process of political resolution of those conflicts.

Each of these realities has important implications for performance budgeting, and it is not possible to examine each of them fully here. In what follows, we consider firstly the implications of performance measurement imperfections for target-setting. We then turn to the implications of indeterminacy in the results cost function, before considering the question of budgetary 'incentives'.

Targets based upon Imperfect Indicators

In considering the implications of imperfect performance measures, it is useful to suppose that all other assumptions of the simple model set out above, permitting complete ex ante integration of targets and budgets, hold. Suppose also that motivators exist which lead public officials to wish to achieve those results targets. We can then consider the implications of the imperfection of the indicators in terms of which targets are specified in isolation from other factors by asking whether, under these hypothetical circumstances, imperfectly-specified results targets could play a significant positive role in enhancing public sector performance.

There are those who would answer this question with a strong 'no'. A central point made by critics of target-setting is that measurement imperfections means that targets can be expected to dangerously distort behavior. They recall the Soviet experience, which abounds with delightfully amusing stories about the dysfunctional ways in which planning targets were filled (e.g., the nail factory which found that it was easier to achieve its annual production target – which was specified in weight terms – by producing absurdly large and unusable nails (Nove,

[9] It is all very well for external accountability institutions to urge upon agencies, as they do periodically in a number of countries, that "where agencies have shared planned outcomes, the contribution of the agency to the outcome should be identified for accountability purposes" (ANAO, 2000: 13). They seldom provide advice as to how that should actually be done.

1984)). It is on these grounds, for example, that critics of the British target-based PSA system have attacked the Blair government for 'neo-Stalinism' (Keaney, 2001)!

It is important to acknowledge that the problem of imperfectly-specified target this is not a problem which can be resolved by simply by designing targets more carefully. While more careful design can certainly reduce the magnitude of the problem, the imperfection of targets is an *inherent* property arising from information constraints. Indeed, the information-based weakness of indicators and targets is a key reason for the failure of central economic planning and the superiority, in most markets, of consumer choice and other decentralized market mechanisms.

Many of the critics of targets as fall into one of two camps. There are those, firstly, who believe that the public sector is so inherently flawed that the only way of achieving any performance improvements is to introduce market mechanisms, preferably by divesting services fully from government or, at the very least, introducing elements of the market mechanism through quasi-market techniques such as vouchers, competitive tendering and like. From their perspective, planning techniques like performance budgeting are pretty much a waste of time.

Those who think along these lines are partly right. There are indeed great limitations to what can be achieved through what are essentially planning processes. Where they can work, consumer sovereignty and competition are infinitely superior mechanisms for ensuring efficiency and effectiveness. It follows that performance budgeting should only be seen as one element of a broader public sector reform agenda, which should include the introduction where possible of elements of consumer choice and competition, and which should keep the boundaries between public and private provision under constant review. However, unless one believes that such a review would result in the elimination of virtually all *public* provision of services, the issue of how to manage performance within the public sector in the absence of market-type performance disciplines remains a crucially important one.

A further point is that the 'pro-market' critique of targets falsely dichotomizes 'planning' and markets. The derogatory term 'central planning' refers to what is less pejoratively known as 'hierarchical' coordination. It is a commonplace of organizational economics to recognize that many transactions are handled more efficiently by hierarchical co-ordination *within* firms, rather than by 'market' transactions between firms. When transactions are handled within firms, even the private sector is required to engage in considerable 'central planning' – as Charles Lindblom pointed out so effectively many years ago.

The other group of critics of targets takes a very different view, rooted in a highly pro-public sector outlook. They argue that targets address a non-existent problem. In their view, in seeking to improve public sector performance it is sufficient to rely upon intrinsic performance motivators (public duty, organizational goal alignment/'organizational citizenship behavior' and professional ethics), and upon the performance motivators built into democratic political accountability (e.g. Prowse, 2001).

The problem with this latter position is it refuses to acknowledge that there are many features of government systems which can tend to focus political and bureaucratic decision-makers on

objectives other than maximizing the results delivered to the community: i.e. that there is a public sector performance problem. It takes a somewhat romantic view of democratic politics. It also exaggerates the degree of selflessness of public officials, and turns a blind eye to the real problems of producer power in some public service sectors. It is precisely because there is a public sector performance problem that targets have the potential to help drive improved performance.

As unrealistic as the view that one can rely wholly upon intrinsic motivators and political accountability mechanisms may be, however, it is no more misguided than the view found at the opposite end of the spectrum, which denies or simply disregards the importance of intrinsic motivators, and which regards democratic politics as so inherently flawed that it should be regarded entirely as the barrier to good public sector performance. In the public sector, public duty and other intrinsic motivators are extremely important (e.g. Houston, 2000). Moreover, flawed though it might be, democratic political systems, at least in the context of a well-developed civil society, do create some very important positive performance motivators. The challenge of public sector management is not to build an entirely new edifice of performance incentives on a vacant block of land, but rather to build an additional wing on an existing motivation structure, hopefully partly compensating for certain structural weaknesses of the pre-existing structure while doing so.

To regard the potential for behavioral distortion as a conclusive argument against the use of performance targets seems inappropriate because it effectively assumes that targets operate without the balancing effect of these other performance motivators, or – equivalently – that the introduction of a target-setting regime will necessarily override or entirely crowd out those other motivators. Yet this is surely not the case. The existence of, and degree of, such crowding is an empirical matter, and must depend in part upon how powerful target-linked incentives are. It is likely to be a mistake to build extremely powerful incentive structures on the foundations of highly imperfectly-specified targets[10]. But there are no doubt much more complex mechanisms which are relevant in this context. In the context of private sector performance pay systems, Deckop, Mangel and Cirka (1999) produce results which support the proposition that in organizations with high value-alignment, results-based incentives can complement organizational citizenship behavior rather than weaken it. In the public sector, it is arguably this type of effect which we should perhaps be seeking to achieve when setting performance targets.

The issue of how to motivate people most effectively to perform is clearly fundamental not only to performance budgeting, but to public sector management in general. In Britain, for example, the question of how to motivate individual public officials more effectively to achieve PSA targets is of pivotal importance in the further development of the PSA framework (NAO, 2001:

[10] A good example of this type of mistake is a suggestion by a major international management consultancy that performance-based pay should be introduced for German political leaders which would, in the case of the Chancellor, make a *large* portion of pay dependent on an indicator comprised of a measure of the degree of adherence to the Maastricht fiscal policy rules and the unemployment rate (Kloepfer, 2002). The obvious potential dysfunctionality of such an approach seems to have escaped the proponents, notwithstanding the lessons which should have been learnt from the spectacular recent examples of bonus/option pay-related behavioral distortions in the corporate world. What, for example, if the German Government were to take the (increasingly respectable) view that the Maastricht criteria, by failing to systematically adjust for cyclical impacts on the budget deficit, were seriously flawed and likely to push Europe into recession?

34). It is therefore rather remarkable that the nature of public sector performance motivation is a somewhat neglected issue in the public sector (Wright, 2001). Arguably, it should be a top priority research field in which the potential insights of psychology and management theory are developed more fully and brought to bear on the practical management agenda. The intellectual imperialism of economics – as manifested in a simplistic approach to the question of performance motivation and incentives – is not helpful in this context.

The Underlying Relationship between Results and Resources

The potential linkages which can be made between resources and results in a performance budgeting system depend not only upon measurement and specification issues, but also upon the underlying production and cost relationship between resources and the results. The simple model of the fully integration of target-setting and budgeting, outlined above, assumed a *determinate* 'results cost function' of the general form $c = \psi(r_{expected})$. Determinacy means, approximately speaking, that for any r, there is one and only one value of C which represents the efficient cost of production of r[11].

In reality, however, many public sector results costs functions are characterized by significant levels of indeterminacy. Indeterminacy means that there are other variables χ which exert significant influence the relationship between r and c (i.e. $c = \psi(r, \chi)$), and that there is ex ante uncertainty about the values of these variables χ, and also about the impact of χ upon the relationship between r and c.

In the case of outcomes, it is well recognized that 'controllability' is a major problem, due to the impact of so-called 'contextual factors' – characteristics of the service delivery environment, or of clients or cases, which affect the outcomes which public services can achieve. This means that the level of indeterminacy affecting the outcome/resources relationship is for many services quite high – and is often extremely high in the case of high level outcomes. In other words, if we imagine an outcomes cost function of the form $c = \psi(r, \chi)$, where r symbolizes intended outcomes and χ relevant contextual factors, it is frequently be the case that the impact of variations in χ upon r, holding c constant, will be considerable and difficult to forecast.

What, by contrast, about outputs? It is apparently widely assumed that output cost functions are not affected by the indeterminacy problems which affect the outcome/resources relationship. Certainly, there is generally less ex ante ambiguity in respect to outputs than outcomes, and the performance measurement problems – while not in any sense trivial – tend to be somewhat less severe. It is for these reasons that performance budgeting models based on functional relationship between outputs and funding (e.g. output-purchasing systems which purport to pay per-unit 'prices' for outputs) have enjoyed significant support.

Of course, even if the output cost function is determinate, there is an information issue if it is to be used for budgeting: how do central budget decision-makers determine what the (output) cost function is? The challenge is generally not an easy one because it involves not only estimating

[11] Or that, if there are other variables χ of relevance (e.g. changes in input prices), the impact of any potential value of χ is known in advance, and these other variables are not subject to volatile and unpredictable change.

the prevailing cost structure of a public agency, but also attempting to estimate what the efficient costs of production ought to be. The issue is, however, a familiar one in public sector economics and accounting, and there has, quite rightly, been greatly increased attention over recent years to the a range of techniques including output costing, benchmarking and market testing to help provide this information. It is, of course, not necessary to have a one-hundred percent accurate estimate of the output cost function in order to use output cost information in the budget process – information which provides a reasonable approximation of reality will generally be quite sufficient. Nevertheless, obtaining information sufficiently accurate to be used as the basis of budgeting tends to be quite costly. Indeed, it can be argued that the scale of information costs suggests that only in the case of some – not all – public outputs will it be cost-effective to obtain, for use in the budgeting and performance monitoring process, information on the output cost function. In general, it will probably be worthwhile doing this only for larger volume services, and particularly for services with multiple production units (school, hospitals etc) operating under comparable cost conditions, thus facilitating cost benchmarking. Further relevant criteria are discussed in the analysis below.

This issue of how to obtain *information* about the output cost function may not be a simple or easy one, but it is at least one which has received considerable attention. By contrast, less attention has been given to the issue of the determinacy of the output cost function.

The widespread assumption that output cost functions are determinate probably owes a great deal to the fact that economists and accountants are raised on models of product (output) markets in which cost functions[12] are all fully determinate. There are indeed some budget sector service outputs – and most budget sector outputs are, importantly, services rather than goods – for which determinate textbook cost functions are a reasonable approximation of reality. Unfortunately, however, there are many budget sector services for which this is not at all a realistic model, and in relation to which significant cost function indeterminacy exists.

Two major sources of indeterminacy, discussed elsewhere, are output heterogeneity and the existence of 'contingent capacity services' (Robinson, 2002). Here we summarize these phenomena, at the same time extending the analysis by giving attention to broader impacts of variability in the demand for services on the output cost function.

Demand variability (and particularly unanticipated variability) can destabilize the output cost function for some public services for two principal reasons. The first is the significant inflexibility in total agency budget allocations in response to service demand variability (reflecting the very weak nexus between aggregate output supply and agency revenues, which arises from the fact that services are financed through tax revenue, rather than sale of those outputs). The second is the inability to inventory services. In the case of physical goods, inventories play an important role in smoothing production in the face of short-run demand fluctuations, thus in large measure preserving cost function determinacy even when it is not be optimal or feasible to vary all supposedly 'variable' inputs instantly in line with fluctuations in demand. Inventories cannot, however, play such a role in respect to services, the production and supply of services must take place simultaneously. The fact that services are non-storable thus makes service cost functions more unstable in the face of short-run demand fluctuations.

[12] There are, of course, two textbook cost functions – short-run and long run – both of which are determinate.

These factors will not introduce significant indeterminacy into the cost functions of *all* public services. Clearly, if demand is relatively stable, little indeterminacy arises. And even if there is demand volatility, the degree of consequent indeterminacy will not be great if the government decides to respond to unexpected demand increases with increased output quantity rationing (e.g. letting hospital treatment waiting lists lengthen).

Substantial indeterminacy is likely to arise when there is significant demand volatility and it is not regarded as acceptable to respond to demand fluctuations wholly through output quantity rationing. Consider what may happen under these circumstances if there is a surge in demand. One conceivable response is output quality rationing – i.e. a reduction in the amount of direct service activity received by the average client/case[13] – in order to increase the quantity of outputs delivered with the same resources. For example, faced with a surge in the number of patients admitted, a psychiatric institution may be forced to respond by giving a lower level of care to each patient. The quality reduction will destabilize the output cost function in a way which will be hard to adjust for because of quality measurement and costing difficulties. In theory this could be accommodated by incorporating a quality dimension into the output quantity measure, but this is generally not possible in practice.

There are some types of service outputs in relation to which neither a quantity nor a quality rationing response is regarded as acceptable should the need for the service arise. The extreme case of this is what may be termed *contingent capacity services*, examples of which are military and emergency services. Contingent capacity services have three characteristics. Firstly, the demand for the service is unpredictably variable. Secondly, there is an *essentiality* and *immediacy* to supply—in other words, it is considered important that when a demand for the service arises, the service be supplied, and supplied promptly. Thirdly, the time lags involved in adding to production capacity (arising from factors such as the specialized nature of the human/physical capital used) exceed the desired service response time (Robinson, 2002). For contingent capacity services, the output cost function may be extremely indeterminate.

Turning to *heterogeneity*, this has been defined as has been defined as "differences in the quantity and/or mix of activities, and consequently in costs per unit of output, which arise from differences in client or case characteristics between units of the 'same' type of output" (Robinson, 2002). The degree of heterogeneity is thus a function of, firstly, the degree of variation in relevant client or case characteristics[14] and, secondly, the degree to which it is desired to 'tailor' the output in response to varying client/case requirements. Heterogeneity implies that output unit cost may vary in an unpredictable way because of differences in case complexity.

Heterogeneity does not always introduce substantial indeterminacy into the output cost function. This will happen only if there is significant variability over time in *average* (as opposed to individual) case/client complexity. If such variability exists, public sector agencies will, once again, commonly use rationing to deal with it in the context of (relatively) fixed budgets. If, for

[13] Holding client/case characteristics constant: see the subsequent discussion of output heterogeneity.

[14] In other words, some of the contextual factors which introduce indeterminacy into the outcome/resources relationship are also impacting upon the output/resources relationship.

example, an agency is confronted with an unanticipated increase in average case complexity, it may respond partly by increasing its activity per case in order to meet the needs arising from greater case complexity. If it does, this will result in fewer units of output being delivered with any given amount of budget funding[15].

Thus, in summary, a determinate cost function will exist for some public sector services, but the output cost functions of many other services will be characterized by significant, and varying, degrees of indeterminacy. Heterogeneity and contingent capacity services are two of the key sources of indeterminacy, but not the only sources[16].

What are the implications of indeterminacy for the integration of performance management and budgeting?

In the first place, the existence of a high degree of indeterminacy in the outcomes cost function mean that it would rarely possible to functionally integrate outcome targets and budgeting, even if there were no outcome specification and measurement difficulties. It is, indeed, for precisely this reason that budgeting systems which purport to be based on management accounting models (including purchaser-provider systems) usually seek to integrate performance management and budgeting primarily via the use of output rather than outcome cost information. This means that there is a potential tension between, on the one hand, the widespread calls noted above for performance targets to be integrated with budgeting and, on the other hand, the equally widespread notion that performance targets should be focused to a high degree on outcomes rather than outputs or activities.

In respect to outputs[17], the feasibility of functionally integrating targets and budgets varies considerably. For perhaps a minority of public services, a high degree of integration will be

[15] The other available response is, of course, to maintain output quantity by failing to increase activity per case, in effect reducing output quality to meet the budget constraint. Agencies probably typically mix the two responses.

[16] It is worth mentioning briefly another potential source of indeterminacy in the output cost function which may arise if there is significant demand volatility. This potentially affects the sub-set of government services which Hill (1977: 332) calls 'collective services'—services where a single direct service activity (using that term in the sense defined in Robinson, 2002) is capable of delivering outputs to a number of clients at the same time. These services possess, at least within limits, the public goods property of 'non-rivalness' – in other words, within some output range, marginal cost equals zero. This means that fluctuations in output with those output ranges can generate indeterminacy. Consider the example of public bus services operating outside peak hour. The output is passenger trips, and the direct service activity is a trip by a bus along a route so that the quantity of outputs delivered by a given set of buses will depend (particular in respect to buses) upon the number of passengers who board the bus which operate after peak hour. I suspect this problem is a significant source of indeterminacy in the case of only a fairly small sub-set of public services. In any event, it is not a major problem for 'output'-based budgeting systems given that there is a widespread tendency to fail to distinguish between outputs and direct service activities, with both being treated as 'outputs'. (To clarify the distinction further: in school education, teaching is a direct service activity, whereas the output is students who have received tuition.). The indeterminacy which may arises for collective services as a result of demand volatility affects the outputs cost function but not what might be called the direct services cost function. It is for this reason that within so-called output-based budgeting systems, budgets are in some cases based on direct services rather than outputs (eg funding based upon the provision of a number of bus services, rather than on the projected number of passenger trips). Indeed, determinacy is probably one of the reasons for the confusion between the outputs and direct service activities.

[17] 'Outputs' should here be read as including direct service activities, in line with the comments in the previous footnote.

possible. This will in some cases permit the introduction of sectoral performance budgeting systems of a purchaser-provider type, along the lines of the casemix hospital funding system. Relatively favorable circumstances for this type of model may exist when

- There is little ex ante goal ambiguity,
- The output cost function is highly determinate reflecting, amongst other things, standardized outputs (i.e. an absence of heterogeneity), and low variability in output quantity requirements,
- Performance measurement problems are relatively moderate,
- The requirements for cost-effectively obtaining information about the output cost function are met (higher output volume, perhaps also the existence of multiple producers).

These conclusions are consistent with Merchant's (1985) general criteria for the success of results-based control mechanisms (see also Tankersley and Grizzle, 1994: 8-9).

On the other hand, where significant indeterminacy exists, the rigid insistence on the achievement of pre-specified performance targets (whether for outcomes or outputs) will be inappropriate, because it can be expected to lead to behavioral distortions which will compound distortions arising from the imperfection of the performance indicators in terms of which target are set. For example, the insistence on output quantity targets under circumstances where average case complexity might be quite variable from one year to the next might results in an undesirable unwillingness to respond to a more complex caseload by increasing the average service provided per case/client. In other words, there could be an reduced degree of 'tailoring' of services to client characteristics, because the easiest way of meeting such quantity targets is to simply dole out the same service to all clients. This would be particularly unfortunate at a time when there is a widespread view that the public sector needs to move away from a 'one size fits all' approach to service provision, and respond more effectively to variations in client needs. The types of problems which can arise in output-purchase systems (such as 'cream-skimming' to avoid more complex clients/cases) also have their origins in behavioral distortions which can arise in the face of significant cost function indeterminacy (Robinson, 2002).

A further consideration is that rigid insistence on targets under such circumstances runs a real risk of undermining, rather than strengthening, the motivation to perform. The recognition of the relevance of uncertainty in the relationship between effort and results, which is closely related to the results cost function indeterminacy discussed above, is an element of classic agency theory. It is entirely consistent with classic agency theory to recognize that the higher the degree of such uncertainty, the less appropriate it is to rely on results measures in performance monitoring and rewards, and that adverse motivational consequences may flow from excessive reliance upon these (Bloom and Milkovich, 1998). Unfortunately, in applications of agency to both private and public sectors, many analysts have substantially ignored the uncertainty factor, and have focused wholly upon principal-agent goal conflict and information asymmetry, on the assumption that these represent "the two key elements of principal-agent theory … the spark plugs that power the theory" (Waterman and Meier, 1998: 177; Frant, 1999: 269). Nilakant and Rao (1994: 653) argue persuasively that agency theory has devoted too little attention to the analysis of the nature and precise implications of uncertainty. If this is true in the private sector setting to which they refer, it is even truer of many public sector applications of agency theory.

This is not, however, to suggest that the *use* of output cost functions in budgeting should be confined only to those services where the above conditions, permitting something approximating the complete functional integration of output target and budgets, are met. Arguably, there is a much wider scope for using planned/expected output quantities together with output cost information to *estimate* budget allocations in respect to services characterized by a *moderate* degree of indeterminacy in the output cost function. There will, however, need in these cases to be an explicit recognition that a difference between actual outputs and planned outputs can arise not only from inefficiency, but also from unanticipated changes in average case/client complexity. This will need to be taken into account in the ex post assessments of agency performance. Where the factors responsible for variations in average client/case complexity are reasonably well-identified and it is possible to develop case/client complexity indicators, such indicators can be particularly useful in such ex post assessments. However, a significant judgmental ('subjective') element in performance assessment will generally remain.

This suggests that there is significant scope for the expanded use of management accounting information about output costs in the budget process, and that this should be one of the areas to be developed in a 'best practice' model of performance budgeting.

It is, however, crucial to recognize that there are a significant portion of public sector services which are not suited to budgeting in terms of projected output (let alone outcome) levels. These include, in particular, those services with highly indeterminate output cost functions as a result of highly heterogeneous, contingent capacity characteristics or other factors. The existence of severe performance measurement difficulties is another relevant characteristic. For such services, budgets allocated must in many instances necessarily be calculated on the basis of input requirements rather than upon results[18]. The degree of integration of budgeting and performance management at the level of outputs will be quite limited.

This analysis has a number of implications for performance budgeting generally.

One implication it is a mistake to seek the complete integration of performance management and budgeting. It is more appropriate to think of the two as overlapping spheres. The aim of performance budgeting should be to maximize the area of overlap, rather than to merge the two spheres altogether.

Secondly, the degree of overlap possible will vary depending on the nature of the services concerned. It is rare that a high degree of integration will be possible at the level in the results hierarchy which matter most – outcomes. Generally speaking, the most favorable circumstance will permit considerable overlap at the *output* level. Even here, non-budgetary performance management has a huge role to play in ensuring that an outcomes focus in maintained, and that

[18] For simplicity, the analysis here ignores the important distinction between outputs and direct service activities (referred to in footnote 16) – a distinction which is in any even widely overlooked in practice. A more complete analysis would explain that in some cases where it is not possible to base budgets upon planned output levels, they may still be based upon projected direct service activity levels rather than inputs. This will be the case when what might be called the 'direct service activity' cost function is reasonably determinate whereas the output cost function is not. This point is relevant, inter alia, to some collective services which must deal with considerable demand volatility. Again, non-peak hour bus services provide an example.

public management does not become overwhelmingly preoccupied with means (outputs) rather than ends (outcomes). In the least favorable circumstances, budgeting must take place in input terms, and the task of maximize the results (or readiness to produce results) produced with these inputs – both in respect to outputs and outcomes – must rely largely upon distinct non-budgetary performance management systems.

Thirdly, and as an implication of this, it is a mistake to condemn 'input' budgeting wholesale in the public sector. The analysis here suggests that the traditional focus on public budgeting upon inputs can only *partly* be explained by insufficient attention to results.

In this context, the British PSA model has, arguably, a great deal to recommend it. The Public Service Agreements are documents which set out for each agency key objectives and a number of targets. These 'headline' targets are relatively small in number (130 in total for the 2002-06 PSAs), and the great majority of the targets are now outcome targets. For example, there are numerical targets for improving the literacy and numeracy outcomes of school children, and for reducing mortality rates from heart disease and cancer (UK Government, 2002a). These targets have an important relationship with the budget. Upon coming to office in 1997, British Labor took the view that significant expenditure increases in some areas of inadequately-provided public services (e.g. health) where going to be unavoidable. It was concerned, however, about the danger of sinking extra funds in without achieving the necessary service improvements. A key part of the strategy has, consequently, been what the Chancellor of the Exchequer (finance minister) Gordon Brown calls "tying new resources to new reform and results" (UK Government, 2002a, i).

Precisely what does "tying" resources and results mean here, given the degree of indeterminacy in the outcome/resources relationship? Clearly, the British Government does not believe that it means tight, functionally-based integration. For precisely this reason, there is a process whereby the headline targets are translated at the agency level into 'operational' targets (specified in terms of outputs, activities, and inputs) with the intention that these targets should be more controllable and should be more closely 'owned' by the agencies[19]. Some of these operational targets are specified in 'Service Delivery Agreements' negotiated with each agency under the PSA umbrella. In this manner, the PSAs now focus upon the creation of a 'cascading' structure of targets (NAO, 2001). The lower down in the cascading hierarchy the targets are, the greater the *degree* to which, in general, they can and should be integrated with budgeting.

This leads to an obvious general point. The analysis of the relationship between budgets and results has important links with the overall strategic planning process within agencies. Strategic planning is one important zone where performance management and budgeting should overlap in a best practices performance budgeting system.

Budgetary Performance Incentives

The final key theme of contemporary thinking about performance budgeting is the need to build a stronger link between the actual results achieved by agencies and their subsequent budget

[19] This is clearly a process with close links to strategic planning processes.

allocations: i.e. to strengthen the ex post link between results and resources. This is a most worthwhile objective, and it is therefore worth useful to consider the appropriate form such a linkage should take.

A good starting point is an analysis of the proposition that the aim of creating an ex post link between results and subsequent funding should be the creation of a performance 'incentive' for agencies. The idea is presumably that agencies performing well would be given increased budgets because the prospect of increased budgets would motivate agencies to seek to improve their performance. And conversely, poorly performing agencies could be motivated to lift their game by the knowledge that, if they do not improve performance, their budgets would be cut.

A key question here concerns the *precise* manner in which such budgetary variations might be said to create an 'incentive'. We need in this context to be precise about what is meant by an 'incentive'. Whether in the agency theory literature or in general usage, an incentive refers to an extrinsic motivator and is quite distinct from value-driven intrinsic motivators such as a commitment to the advancement of the public interest. Incentives particularly refer to remuneration (whether cash or 'perks'), and includes sanctions, the most extreme of which is usually termination of employment. By definition, performance 'incentives' operate at the level of the individual employee. If, therefore, budget funding is to be considered a performance incentive, there must be a clear linkage between increased/reduced funding to the agency and incentives for individual employees.

How might such a linkage operate? One possible linkage is the prospect that if a program or agency performs badly, it will be closed down and its employees will lose their jobs. The threat of job loss is, however, a crude weapon, and if budgetary 'performance incentives' are to operate in anything other than the most blunderbuss fashion, they would have to take effect principally through a link with individual employee remuneration. The question then is: what form would such a link take?

One obvious possibility is to rely upon the indirect link between individual remuneration and budget size which arises from the tendency for managers with larger program responsibilities and bigger budgets to be paid more. However, budgetary performance 'incentives' via the latter transmission mechanism would clearly be a terrible idea. Much of the public choice critique of the public sector is, of course, targeted at the behavioral distortions which arise from precisely this type of indirect linkage between a bureaucrat's remuneration and the size of his/her 'empire'. It is hard to imagine that anyone would wish to reinforce such perverse incentives through what purported to be a performance budgeting system.

One of the key reasons why it would be a mistake to strengthen individual incentives based upon the size of bureaucratic empires is that to do so would manifestly conflict with the goal of allocative efficiency (budgetary prioritization). For example, there are some programs which from demographic or other reasons ought to be downsized over time (e.g. war veteran programs in countries which have not fought major wars for many years). If performance budgeting is to create 'incentives' for the officials running such programs, then it is clearly essential that those incentives should operate separately from overall budgetary priority decisions. Conversely, the poor performance of a program or agency cannot be dealt with by swingeing cuts to its budget if

the service it provides is of great national importance. Some other response to poor performance in such a program or agency will be necessary: generally policy changes and/or management changes.

To put the point differently, while it is entirely desirable that information about agency performance be systematically and fully considered in the budget formulation process, there can never be a monotonic link between agency (or program) performance and agency (program) budget size.

This suggests that if budgetary performance 'incentives' are to be created, it must be in a manner which keeps allocative decisions and performance incentives separate. The obvious alternative is the creation of a direct and explicit link between individual employee remuneration and agency-level budgetary funding levels. Strongly-performing agencies might, for example, be given budgetary performance bonuses paid as a top-up over and over core program funding[20], with the bonus earmarked for the payment of performance bonuses to agency employees. Such funding would be determined on an annual basis and would not become part of the budgetary 'base'. This would be analogous to bonuses paid by companies to employees linked to the level of corporate profit in a given year. Sectoral performance budgeting systems exemplified by the previously-mentioned university bonus funding system (in which basic funding is determined by planned student numbers, but bonuses are paid for ex post performance on measures such as graduate employment or academic research output) put this approach partially into practice – what they often lack is a link between agency funding bonuses and individual remuneration.

Whether such a mechanism of budgetary performance 'incentives' would be a good idea is by no means clear. There is certainly a threshold political problem applying such an approach to ministerial agencies – it relies upon assigning an explicit (and therefore public) performance rating to the agency as a whole, and the potential political sensitivity of this could be expected to prevent politicians' acceptance of the idea. The more basic issue, however, is one which is beyond the scope of this paper. It is whether, in the public sector, performance pay is in fact a good way of promoting better performance. It cannot be said even that agency theory – at least once one steps away from simplistic versions of the theory – necessarily suggests a large role for performance pay under circumstances of divided responsibility, extensive performance measurement problems, and high levels of uncertainty in the results/resources link. And once one moves beyond agency theory, there are of course other major concerns, including the potential undermining of intrinsic motivation by powerful extrinsic incentives (Deckop, date?). It is also relevant that the preponderance of the literature on performance pay in the public sector does not support its efficacy (Ingraham, 1993; Kellough and Lu, 1993).

One of the problems with performance pay in a specifically public sector context is that it tends to be zero-sum in nature – that is, the overall bonus pool is fixed (and usually small as well). Introducing agency-level bonuses would help a little with this problem. However, the scope for

[20] In an output-purchase system, this problem is at least in principle resolved by the distinction between output 'price' and cost. The difference constitutes agency profit, and could be used to award employees profit-related bonuses, while maintaining the separation of allocative decisions and incentives. This is simply a business-type model. The scope to use such a mechanism in the public sector is, regrettably, severely constrained by the limited circumstances under which output-purchase systems can work (Robinson, 2002).

these is ultimately greatly limited by the lack of a link at the aggregate level between public sector performance and public sector revenue.

The above analysis suggests that one should be generally cautious about the idea of budgetary performance 'incentives'. Certainly, the idea requires extensive further research and evaluation.

Agency Performance and Budgetary Allocations

If the role of budgetary performance incentives is unclear, it follows that the primary role of ex post performance information in a performance budgeting system should be as a means of enhancing allocative efficiency. Indeed, it can be argued that the central feature of a best practice performance budgeting system is that it should built effective mechanisms to make good performance information a crucialy input into the process of determining spending priorities in the annual government budget. This should happen at every level – going right up to the top (ministerial or cabinet) level.

To say this is not to suggest a return the revival of the original PPBS model of program budgeting. As noted earlier, the key problems of early program budgeting were that, firstly, it took a comprehensive-rational approach which aimed at allocative optimization and, secondly, it implicitly sought to remove the political dimension of budgeting decisions. By contrast, it is probably the case that the governments and finance ministries which have been most effective in incorporating performance information into the budgeting process have been those which have adopted a selective approach to allocative improvement, and which have more effectively integrated political and bureaucratic decision-making in budget determination. They have generally done so in a pragmatic fashion, eschewing grand budgeting systems.

Certain aspects of Australian budgeting practice present a good model here. For almost two decades, there has at the national government level in Australia been a cabinet-level Expenditure Review Committee (ERC) which has played a central role in shaping the overall priorities of the budget. The ERC, which is comprised of the finance minister plus a number of other senior ministers, is provided with substantial performance information as part of its review of expenditure in the run-up to each year's budget. It makes no attempt at comprehensive allocative reviews. Certainly, it is constantly reviewing overall budget priorities. But close review of performance and policy under the aegis of the ERC is highly selective, and tends to focus on one or more broad policies areas each year (often, importantly, these are of a cross-portfolio nature). These reviews will be the subject of quite detailed supporting review work by bureaucrats. By its very nature, as a body comprised of politicians, supported by a high-quality bureaucracy, the ERC also helps to bring together the technical and the political dimensions of budgeting. In other words, performance information serves as an input into political priority assessments, helping to improve the quality of political judgment, rather than seeking to supplant politics. The ERC mechanism has other advantages as well – in particular, it helps to strengthen fiscal discipline by giving the finance minister allies in cabinet.

Other countries, of course, achieve the same broad result by other mechanisms. The British triennial Spending Review mechanism (UK Government, 2002b) also has considerable strengths.

It attempts to be somewhat more comprehensive, which is reasonable given that it is a triennial rather than annual process, but still avoids the 'paralysis by analysis' trap of early program budgeting.

One very important lesson of these systems is that merely producing sets of agency performance indicators and carrying out (selective) evaluations does not provide information of a type which meets the needs to high-level budget-making. As is well known, a set of performance indicators in itself is often not very information. Quantitative indicators require interpretation. For performance information to be really useful in the budget process, it needs to take the form of summary or overview assessments of agency/program performance. It is not necessary here to go as far as the Bush administration's system for producing an overall rating of agency performance, but this may also be a good idea in the case of relatively apolitical autonomous agencies.

Another valuable element of the ERC/Spending Review types of mechanism is that they encourage agencies to use performance information to support their budget 'bids'. The US GPRA model also demands that agencies base their budget bids on solid performance information. This creates great pressure to produce estimates of performance indicators early enough to be considered in the budget process – a demanding, but arguably worthwhile, requirement.

Results-Oriented Expenditure Classification

As noted at the outset, virtually all versions of performance budgeting make use of the basic idea of budget allocations to broad results-oriented expenditure categories – referred to usually as 'programs', but sometimes also by other names (e.g. 'output groups'). The program allocations are not necessarily enshrined in budgetary legislation – in many cases, they are contained in accompanying budget documentation[21]. Either way, the programs are intended to serve as allocative planning categories. The use of such results-based expenditure categories is an essential part of any best practice model of performance budgeting.

If programs are to be used as the basis for allocative optimization, it makes sense that they should be based upon outcomes and outputs. This, indeed, was the program budgeting ideal. A typical program might be something like 'acute in-patient hospital services', grouping together a range of outputs which are related both in terms of the circumstances under which they are produced, but also by working towards the same intended outcome (improved health status of the community). However, an issue which has dogged performance budgeting from the first days of program budgeting is the frequent presence within program structures of many 'programs' which are not based on output/outcome groups, but on support services (e.g. a corporate services 'program' incorporating agency expenditure on human resources management, internal financial management and similar internal services). The services delivered by such a program are not outputs. Rather, they are intermediate services which support the production of the agency's outputs. If program classification of expenditure is intended to assist in planning priorities for

[21] And even where the budget is appropriated in program terms, this usually is not intended to prevent re-allocation of funds between programs during the budget year.

service provision to the public – which is what allocative efficiency means – then such 'programs' do not help.

Expressed differently, there is a considerable difference between, on the one hand, output/outcome classification of an agency's expenditure and, on the other hand, an expenditure classification based upon the agency's organizational units (functional) classifications. It would appear the notion of "responsibility budgeting" (Thompson and Johansen, 1999)—in which funds are allocated to "responsibility centers" which may produce outputs or intermediate services—refers to the latter rather than the former. If so, responsibility budgeting is certainly necessary for internal agency management purposes. It is not, however, relevant to allocative efficiency, and is therefore not an appropriate basis for a whole-of-government performance budgeting system.

This is an issue on which there has been continuing confusion. When the Hoover Commission originally coined the term 'performance budgeting', it apparently had in mind what would in modern terminology be seen as a mix of output and responsibility budgeting[22]. In Australia, under the accrual output budgeting system, there has been an aggressive campaign to eliminate 'programs' based upon internal services, with the result that there are today – in marked contrast to the position in the 1980s – there are few non-output based programs to be found in budgets at either national or state level. In the US, the OMB appears to be in the early stages of a similar effort to 'clean up' what is a very messy program structure in the US federal budget (OMB, 2001: 511).

The effort to base programs upon outcome-linked output groups should be strongly endorsed. Nevertheless, certain clarifications and qualifications are necessary.

The first point concerns what is meant by the term *output*. It is clear that an internal support service provided within an agency to an internal client is not, or should not be part of anyone's definition of an output. But what about services provided by one agency to an external client which is another government agency rather than a client external to government? In other words, what about inter-agency support services? From an allocative point of view, to define such services as outputs and then base budgetary programs upon them is not appropriate, for precisely the same reasons that it is inappropriate to base programs upon internal services. Nevertheless, in most part of the world, inter-agency support services are defined as outputs and have expenditure programs based upon them. This is true even in Australia, where they are known as 'enabling outputs'. There is good reason for this. A central function of the budget is to give clear budgetary authorizations to each budget-sector agency. There is therefore a good argument for inter-agency services to appear in the program structure, and it consequently makes good sense to define the term 'output' from an agency (rather than whole-of-government) perspective as an service delivered by the agency to a client external to that agency.

A further point is that the use of output-based programs requires good management accounting able to allocate indirect costs – in particular the costs of support services within each agency – to

[22] The Commission proposed a "budget based upon functions, activities, and projects …. (which) would focus attention upon the …work to be done, or upon the service to be rendered" (US Commission on the Organization of the Executive Branch of the Government, 1949: 8).

the agency's output-based programs. To be worthwhile undertaking, this cost attribution must be reasonably accurate. Because the costs are being attributed only to broad product (output) groups, the task it is nowhere near as difficult and costly as cost attribution to individual products can be. Nevertheless, it does require the development of appropriate management accounting systems[23]. Activity-based costing can present a good approach to this task, at least in the context of relatively sophisticated public administration systems.

One point which follows from this is that the 'purification' of program structures to ensure that they are based upon outputs should proceed in tandem with the development of the requisite management accounting systems, and not in advance of it. To have a pure output-based program structure based upon highly arbitrary cost allocation is not of much assistance. This is a point of particular relevance in developing countries, where the development of management accounting skills and systems can take time. In such a context, it may be best to start with something like a responsibility budgeting model and then move over time to a full output-based program structure as the accounting infrastructure to support such a structure develops.

Politics and Performance Budgeting

The need, discussed above, to integrate performance information into political budgeting processes raises the important issue of politics and performance budgeting. Ultimately, the extent to which performance information can impact upon budgets is limited by the extent to which the politicians who ultimately control budgets care about the outcomes and outputs delivered by agencies. The best that a good performance budgeting system – supported by a good performance information system – can do is to make it *possible* for performance to be a much greater part of budget decision-making than has traditionally been the case, and encourage this by giving the community better information about performance. It is therefore clearly unrealistic to expect too much of performance information and budgeting systems alone, if politicians do not care much about results. This is particularly true in developing nations, where the task of making the public sector more results-oriented depends crucially upon broader political reforms and upon the development of the institutions of civil society.

When considering the political dimension of performance budgeting, it is worth recalling that the separation of powers between the political executive and legislature in a US-style political system creates a division of political budget decision-making authority which arguably makes the performance budgeting immeasurably more difficult (Radin, 2000: 120; Roberts, 1997, 471-2; Grizzle and Pettijohn, 2002: 54-55; Thompson and Johansen, 1999, p 200). The problem is not only one of multiple 'principals', but also that the political incentives facing individual

[23] This leads to one possible exception to the principle that programs should be entirely output-based, and not based upon support services or indirect costs. It is misleading to allocate true agency-wide 'joint' costs to output-based programs, because this can only give a misleading impression of allocative options (Robinson, 1996). The inappropriateness of attributing joint costs to particular products is a feature of standard multi-product economics, and is recognized by the accounting theorists who developed activity-based accounting (reference). One would, therefore, be on safe grounds in arguing that each agency should have a joint-cost program separate from its output-based programs. Even if one took this approach, however, the joint-cost programs would generally be quite small, because most indirect costs are not, however, agency-wide joint costs, and should therefore be fully allocated. Whether it is worth bothering with this point is not entirely clear.

legislators do not encourage them to look at the budget in a holistic manner promote. This would appear to be part of the reason why US legislators like to micro-manage agency budgets, and perceive line-item appropriations as a tool (Grizzle and Pettijohn, 2002: 56). This was reflected, for example, in resistance by US congressional appropriations committees to the results-focus of the GPRA model (Jones, 1992).

For those of us from countries where the political executive is drawn from the legislature, the US political system often appears to be one which achieves not so much a balance of powers as an institutionalized paralysis with widespread negative effects – including, for example, making the achievement of overall fiscal discipline considerably more difficult. This is a point of some relevance in the political reform process in developing nations: arguably, US advisors should think twice before automatically recommending their particular form of political democracy on emerging nations. Certainly, my recent experience in one developing country tells me that the adoption of a US-style political system has a number of unfortunate consequences, including considerably compounding the difficulties of developing more effective, results-oriented budgeting systems.

CONCLUSIONS

The prerequisite of any good performance budgeting system is a good performance information system, elements of which will, of course, include the development of excellent performance indicators, good managerial accounting systems and a well-developed framework of evaluation and other analytic tools. The essence of performance budgeting is the use of that information in the budget process in order to enhance effectiveness and efficiency.

The analysis in this paper suggests that some of the key elements of a best-practice model of whole-of-government performance budgeting are the following:

- Ensuring that summary information appraising the performance of agencies and key programs within agencies is generated for use in the budget process, including at the topmost level of the political executive (i.e. cabinet or cabinet budget committee level in a parliamentary systems, cabinet secretary and presidential/office level in a systems based upon an executive presidency),
- Making agencies aware that their performance will be an important variable in their budget outcome,
- Setting demanding standards covering the performance information which agencies are expected to provide together with, or at the same time as, their budget 'bids',
- The identification of those service where there is a reasonably determinate relationship between resources and outputs (and, very occasionally, with outcomes), and where certain other conditions are met which will permit the use of output costing information as the basis for budget estimation and, in some cases, for sectoral output-purchase funding systems. The development of such budget estimation models can be expected to be a gradual process,
- The development of program structures which are output-based, where an 'output' is defined in the usual sense as a service delivered by the agency to a client or party *external* to the agency. This involves, therefore, the elimination of programs based upon internal support

services (with the possible very limited exception of those which cover true joint costs). This 'purification' of program structures to ensure that they are output-based should, however, proceed only in pace with the development of reasonably accurate cost allocation systems,

On the other hand, some of the things which should be avoided as principles for the whole-of-government performance budget system (although they are appropriate to varying degrees within sectoral funding systems for hospitals, universities and the like) include:

- The proposition that budgeting can *generally* be based upon output cost information,
- The most extreme version of this proposition: that budgeting can be generally based in the public sector on a purchaser-provider type model where agencies are paid per-output 'prices',
- The suggestion that there will generally be automatic or formularized linkages between performance and budget allocations.

The aim of a best practice performance budgeting model should not be to fully integrate budgeting and performance management. Rather, it should be to build a strong connection and overlap between the two. One means of doing this is by bringing together strategic planning with output (or activity) cost information. In general, the degree of indeterminacy in the relationship between performance targets and budgets increases as one moves up the performance hierarchy from inputs to outputs to intermediate and then to high-level outcomes. This means that the linkages between targets and resources necessarily become weaker. Nevertheless, analyzing and using the linkages between targets and resources is an important focus for performance budgeting.

It is unrealistic to expect that performance budgeting – even as part of a broader agenda of public sector reforms – will 'revolutionize' or 'reinvent' government. The public sector is messy, and there are no easy solutions to difficult problems. Indeed, it is precisely because of their complex nature that many of the services provided by the public sector are not instead supplied by the market. Nevertheless, the scope for substantial efficiency and effectiveness gains is very real.

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